The Office Action of 10/15/2007 should not have been made final.

The Examiner indicates that the "Applicant's amendment necessitated the rejection

...." and made this Action final. Applicant respectfully submits that there were no

amendments to the claims in applicants previous response and that the Action of

10/15/2007 should not have been final.

Since this Response is being filed with an RCE, this finality is moot. However the

Applicant respectfully requests that the Examiner consider the currently pending claims

33-54 and all of the arguments filed in the response of August 30, 2007.

The Prior Art Rejections

The Examiner rejected claims 33-36, 41-45, 47-51, and 53-54 were rejected under

Section 102(e) as being anticipated by Shaffer (U.S. Patent No. 6,236,642 – hereinafter

Shaffer). The Examiner rejected claims 37, 38, 46 and 52 under Section 103 as being

unpatentable over Shaffer in view of Matthews (6,084,858). The grounds for these

rejections are respectfully traversed.

This invention relates to computer networks, and more specifically to finding

improved communication paths through a heterogeneous computer network by means of a

so-called *"overlay network."* [*Spec.*, pg. 1, lines 6-9] The overlay network may comprise

"a special group of intermediate nodes" through which an alternative path may pass.

[*Spec.*, pg. 3, lines 13-22].

When a source wishes to send data to a destination (e.g., in a packet-based

network), a path is determined from the source to the destination through various network

nodes. E.g., with reference to Fig. 1 of the application, a path from the source 100 to the

destination 160 traverses various network nodes 145. Such a path is referred to as a so-

called "default path," and is generally determined using existing routing mechanisms.

These mechanisms may try to find what they consider to be an optimal path based on some

criteria of theirs.

The inventor realized that the path(s) determined by existing routing mechanisms may be sub-optimal for various reasons. For example, the so-called "default" paths determined by existing routing mechanisms may be "old" paths (and therefore possibly no longer "optimal"), they may include recently congested nodes, or they may have been determined using a different measure of optimality than that desired by the current user. (See, e.g., "Because of the great size and heterogeneous nature of the Internet, and the complexity of the routing task, these routing protocols [for the default path] are typically minimalistic and tend to focus on guarantee of connection and minimizing routing hops rather than optimizing performance." [*Spec.*, pg. 1, line 31 *et seq.*])

The present invention solves the problem of inadequate default path performance by providing additional functionality to a *special group of nodes*, referred to as "intermediate nodes" or "overlay nodes." As the Specification explains, the overlay nodes "provide additional functionality for exploiting overlay routing." [*Spec.*, pg. 5, lines 32-33]. These overlay nodes create an "overlay network" of "alternate routing mechanisms" overlaid on top of the "existing routing mechanisms" of the underlying network: "[a]n overlay network of alternate routing mechanisms is constructed on top of the existing Internet routing mechanisms to find and exploit available resources." [*Spec.*, pg. 5, lines 12-13] The "[o]verlay network nodes utilize existing network transmission lines and infrastructure ... to create a virtual topology." [*Spec.*, pg. 5, lines 23-25]

The inventor was the first to realize that by providing a so-called *overlay network* – a network of nodes over which some control could be exercised, an alternative (and possibly more "optimal") path from source to destination may be found. (The application makes clear, the "optimized" path is not the best path in a global sense, but simply a path "deemed preferable with respect to selected cost/performance criteria and with respect to a set of identified alternative paths." [*Spec.*, pg. 2, lines 1-4])

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The Examiner has ignored the definition of overlay network. The Examiner assumes that simply because a network has intermediate nodes, that network must be an overlay network. The Examiner states that "the network in figure 2 of Shaffer *could be* an overlay network because it comprises a group of intermediate nodes ... and an alternative path ...". Not every network that has intermediate nodes is an overlay network otherwise almost every network would be an overlay network. However, this is not consistent with the definition of an overlay network (with "a *special group* of intermediate nodes").

The Examiner's only indication of supposed support for an overlay network in Schaffer is the Examiner's remark that "a network connection is shown in figure 2." *Id.* Regardless of whether or not such a connection is shown, figure 2 does not show an overlay network, and *none of the nodes in figure 2 are nodes in an overlay network.* The Examiner appears to believe that node 2 is an overlay node. Shaffer's "node 2" is not in an overlay network – none of his nodes are nodes in an overlay network. Since Shaffer has no overlay network, he does not and cannot have any teaching or suggestion of any intermediate nodes in such a network.

Shaffer does not teach or in any way suggest an overlay network.

In view of the above, withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicant respectfully submits that this application is in condition for allowance and an early action to that effect is earnestly solicited.

The Examiner is *again* respectfully invited to telephone the undersigned to resolve any outstanding issues.
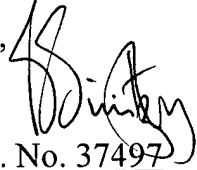
CHARGE STATEMENT: Deposit Account No. 501860, order no. 2711-0012	
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached. **This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.**	
CUSTOMER NUMBER **42624**	Respectfully submitted, By: /Brian Siritzky/Reg. No. 37497 Brian Siritzky, Ph.D. Registration No.: 37,497
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